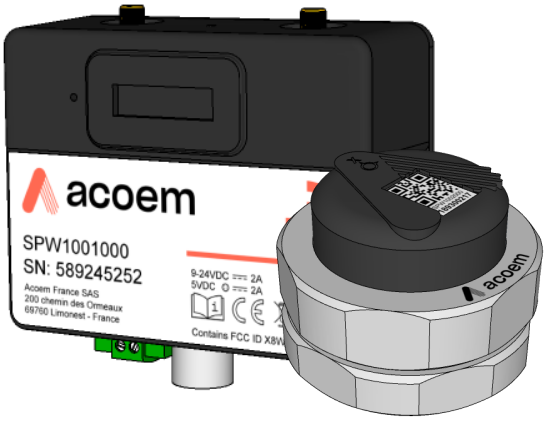
acoem



Sparrow

Wireless condition monitoring solutions

Sparrow is a smart wireless sensor part of the Acoem ecosystem that is easy to set up and allows for the continuous monitoring of the health condition of rotating machinery. Manufacturers can enhance the reliability of their production tools in the simplest way possible, freeing themselves from the restrictions inherent to the set-up of standard wired solutions.

HURYZA

Sparrow guarantees a drastic reduction of installation costs where preliminary engineering phases are necessary. In combination to NESTi4.0 CMS platform, maximize the benefits of your system.

With its optimized measurement capabilities, Sparrow is an affordable wireless solution allowing diagnosis capabilities and enabling you to increase the overall reliability of your industrial facilities.

Sparrow Diagnosis Capabilities

Post-processing	
On time waves	Filters: High Pass, Low Pass, Band Pass, Shock Finder smart filter
	High Resolution Spectra (up to 12,800 lines), concatenation
	Automatic parameters: Statistical levels
	(RMS, peak, peak-peak, mean...), Kurtosis
On spectra	Automatic parameters: Peak Extraction, Energy Narrow band Level,
	Energy broadband Level
	Bearings frequencies, gear frequencies
On parameters	Logic combination of parameters
Advanced thresholds	
Absolute Alarm	4 levels (pre Alarm, Alarm, Danger, Error)
Absolute thresholds	HIGH level thresholds
Relative threshold	Short term deviation compared to previous measurement
	Long term deviation compared to baseline
Data mining	
History	Trends, waterfall
History	Filter on control history from parameter trend
Comparison	Superimposition of parameters, spectra, time waves
Quick access to results	Health Matrix display for automatic fault detection:
	All machine parameters displayed in a single view

Specifications

Performances

Number of axes:	3-axis (adjustable sensor orientation)
Dynamic range:	±8 / ±16 / ±32 g, (configurable)
Nominal frequency range (@ 25,600 Hz SF):	0.5 Hz - 8.5 kHz [x,y], 0.5 Hz - 5.1 kHz [z]
Fmax:	10kHz
Sensing resolution: (X, Y, Z)	240 µg
Spectral noise (10 Hz):	630 µg√Hz
Resolution lines:	12,800 (25,600 in single axis mode)
Sampling frequency:	200Hz to 25.6 kHz
Smart sensor:	Overall velocity, temperature, time waveform
Acquisition modes:	Smart interval, alarm-based

Physical

Size and weight:	Ø47 mm, 33mm high, 186 grams
Case material:	Stainless steel, ABS
Mounting:	¼-28 UNF thread
Sealing:	IP69

Accessories

Mounting (optional):	¼-28 UNF cementing pad, ¼-28 UNF to M6 stud

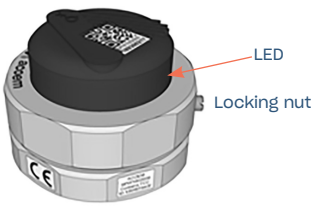
Electrical

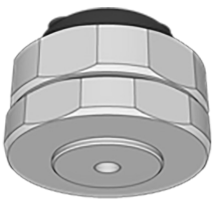
Standard battery:	Lithium battery (CR2477)
Autonomy:	2 years*
	Standby mode if Gateway not detected.

** Duration depends on user configuration. Battery life is directly affected by temperature, frequency of alarms, and other factors independent of user settings.*

Operating Requirements

Operating ambient: temperature	-40 to 80 °C (40 to 176 °F) *Note that extreme temperatures reduce optimum battery life*
Solvent resistance:	Common solvents resistant,
Compliances:	CE, RoHS, Reach, contains FCC ID: X8WBT840F





¼-28 UNF thread

User adjustable sensor orientation

Sparrow Gateway

Technical

Power supply	5 VDC-2A in USB or 9-24 V-13W with 2-pin connector
Size	88x69x30 mm (without antennas), 214 grams
Material	ABS / Nylamid
Operating temperature	-7 to 60 °C (20 to 140 °F)
Protection grade	IP20
Storage	16GB
Network channel	100M/10M Ethernet RJ45 connector, Industrial Ethernet class 5e cables (S/FTP)
WiFi protocol	USB Based 2.4GHz/5GHz wifi
Antenna gain	2.4 GHz Antenna 3dBi
Antenna connector	Two RP-SMA Male Connections
Mounting	Standard DIN Rail (35 mm, 42 mm wide)
Enclosure (optional)	IP65 enclosure for outdoor installation with power supply

Features

Outputs	Modbus TCP / IP, OPC UA
Sensors configuration	Gateway Web Interface
Software compatibility	NESTi4.0 through MQTT protocol

Sparrow Connectivity

Wireless protocol	Bluetooth Low Energy BLE 5.0
Operating frequency	2.4 GHz ISM band International license-free
Transmission power	±8 dBm
Signal strength range	-90 dBm to -30 dBm
Power output range	-4 dBm to +8 dBm (Configurable)
Wireless range	100 m Line of sight **Ideal environment. No competing signals or obstructions.*
Nodes supported	Up to 100 nodes per gateway

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